Appendix 3 - Renewable Resources Definition

For the purposes of this RFP and for evaluating the contribution of renewable resources to hydrogen production, the term “renewable resources” or “renewables” includes both of the following definitions:

a) *eligible renewable feedstocks* listed in Public Resources Code Section 25741(b)(1) including:

- Digester gas
- Landfill gas
- Sewer gas
- Biomass
- Biodiesel
- Municipal solid waste
- Geothermal
- Small hydroelectric (30 megawatts or less)
- Ocean wave
- Ocean thermal
- Ocean tidal current
- Photovoltaic (PV)
- Solar thermal
- Wind Power

(note: Appendix 4 of the RFP refers to the above as non-electricity feedstocks and energy sources because they are not converted to electricity before they are employed for hydrogen production.)

b) “*eligible renewable energy resources*” as defined in Public Utilities Code Section 399.12(c), as amended on October 14, 2007. The definitions for “eligible renewable energy resources” to be used for the purposes of this RFP are derived from the State Energy Resources Conservation and Development Commission (Commission) for the Renewable Portfolio Standard. (Note: the terminology “eligible renewable electricity” used in Appendix 4 of this RFP is synonymous with “eligible renewable energy resources” defined herein.) An eligible renewable energy resource is electricity produced from the feedstocks listed under (a) at an “in-state renewable electricity generation facility” defined in Public Resources Code Section 25741, with the following stipulations and clarifications:

Biodiesel: The electricity produced from combusting biodiesel is eligible to the extent that the biodiesel is derived from the following:

- A biomass feedstock such as agricultural crops and agricultural wastes and residues, or
- An eligible “solid waste conversion” process using MSW (refer to the MSW eligibility).

Renewable contribution for biodiesel facility:

- If the facility is certified as a Qualifying Small Power Production Facility (QF) under the federal Public Utilities Regulatory Policies Act (PURPA), then 100 percent of the electricity production from the facility may count as renewable provided the facility satisfies the fossil fuel use limitations specified in PURPA.
- If the facility is NOT certified as a QF, then only the renewable portion of the electricity production can qualify.

Fuel cells: electricity generated from fuel cells using renewable fuels.

Geothermal: natural heat from within the earth, captured for production of electric power, space heating, or industrial steam.

Small hydroelectric: a hydroelectric facility employing one or more hydroelectric turbine generators, the sum capacity does not exceed 30 megawatts and meets the requirements of Public Resources Code Section 25741(b) and Public Utilities Code Section 399.12(c)(1), as amended on October 14, 2007.

Landfill gas (LFG): gas produced by the breakdown of organic matter in a landfill (composed primarily of methane and carbon dioxide) or the technology that uses this gas to produce power.

Municipal solid waste (MSW): solid waste as defined in Public Resources Code section 40191.

Municipal Solid Waste Conversion: A technology using a non-combustion thermal process to convert solid waste to a clean burning fuel for the purpose of generating electricity that meets all of the following criteria:

- The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control.
- The technology produces, as determined by the Commission, a net reduction in discharges of air contaminants or emissions, as compared to the discharges or emission if the technology is not used, including greenhouse gases as defined in Section 42801.1 of the Health and Safety Code.
- The technology produces no discharges to surface or groundwater's of the state.
- The technology produces no hazardous wastes.
- To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that the those materials will be recycled or composted.

- The facility at which the technology is used is in compliance with all applicable laws, regulations, and ordinances.
- The technology meets any other conditions established by the Commission.
- The facility certifies that any local agency sending solid waste to the facility diverted at least 30 percent of all solid waste it collects through solid waste reduction, recycling and composting.

Ocean thermal: experimental technology that uses the temperature differences between deep and surface ocean water to produce electricity.

Ocean Tidal current power: energy obtained by using the motion of the tides to run water turbines that drive electric generators.

Ocean wave: an experimental technology that uses ocean waves to produce electricity.

Photovoltaic (PV): a technology that uses a semiconductor to convert sunlight directly into electricity.

Sewer gas: gas produced by the anaerobic decomposition of sewage.

Solar thermal electric: the conversion of sunlight to heat and its concentration and use to power a generator to produce electricity.

Direct solar thermal: the concentration of the sunlight on a high temperature reactor resulting in the direct conversion of water or other feedstocks to hydrogen and oxygen.

Wind power: energy from wind converted into mechanical energy and then electricity.